查询NE522供应商

High-speed dual-differential comparator/sense amp NE522

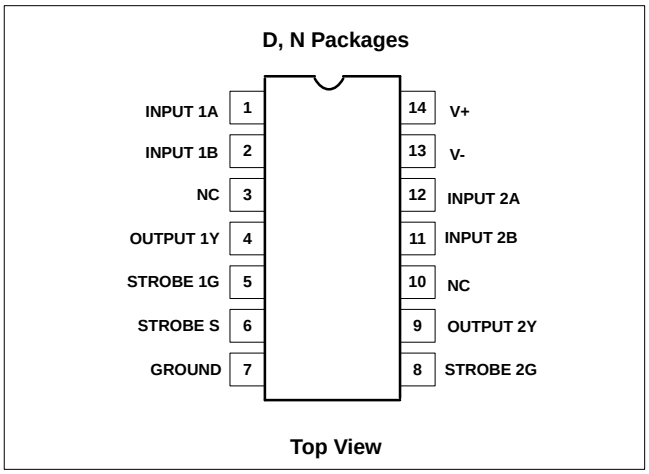
FEATURES

- 15ns maximum guaranteed propagation delay
- 20µA maximum input bias current
- TTL-compatible strobes and outputs
- Large common-mode input voltage range
- Operates from standard supply voltages

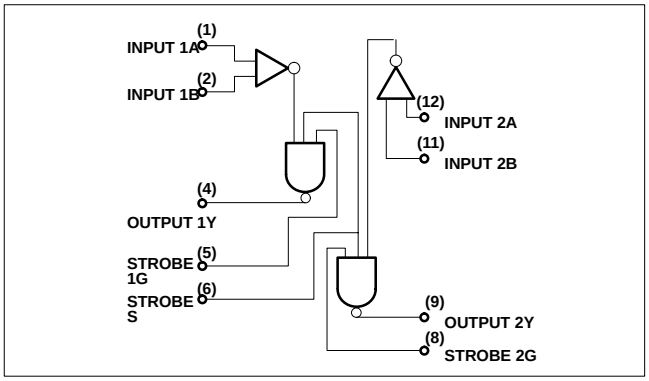
APPLICATIONS

- MOS memory sense amp
- A-to-D conversion
- High-speed line receiver

PIN CONFIGURATION



BLOCK DIAGRAM



ORDERING INFORMATION

DESCRIPTION	TEMPERATURE RANGE	ORDER CODE	DWG #
14-Pin Plastic DIP	0 to +70°C	NE522N	0405B
14-Pin Plastic SO	0 to +70°C	NE522D	0175D

ABSOLUTE MAXIMUM RATINGS

SYMBOL	PARAMETER		RATING	UNITS
V+ V–	Single supply voltage	Positive Negative	+7 -7	V V
V_{IDR}	Differential input voltage		±6	V
V_{IN}	Input voltage	Common-mode Strobe/gate	± 5 +5.25	V V
P_D	Power dissipation		600	mW
T_A	Operating temperature range	NE522	0 to 70	°C
T_{STG}	Storage temperature range		-65 to +150	°C
T_{SOLD}	Lead soldering temperature (10sec max)		+300	°C

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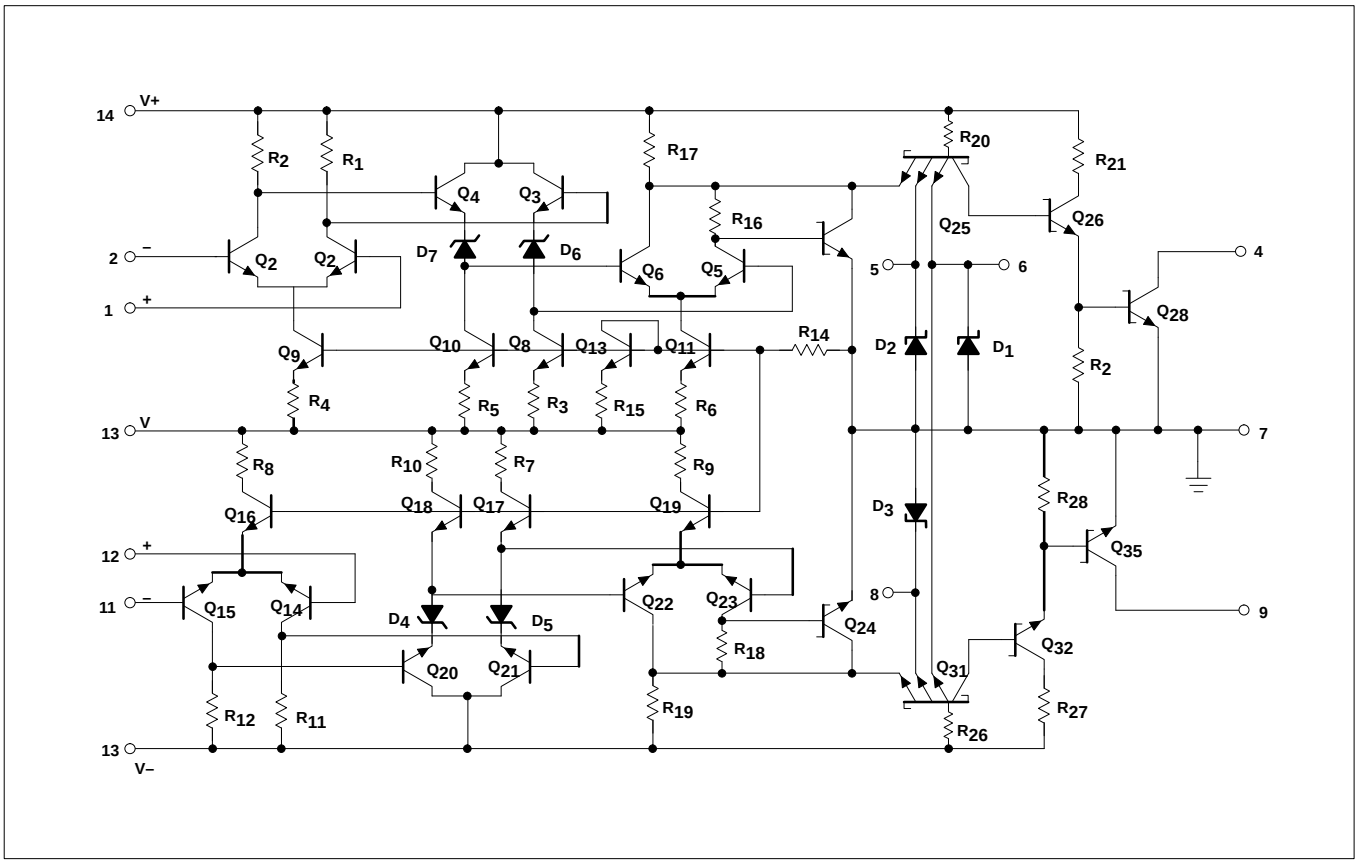
EQUIVALENT SCHEMATIC



DC ELECTRICAL CHARACTERISTICS

$V\pm = \pm5V \pm5\%$, T_A = 0 to +70°C, unless otherwise stated.

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS			UNITS
			MIN	TYP	MAX	
V_{OS}	Input offset voltage	V+ = +4.75V, V– = –4.75V				
	At 25°C			6	7.5	mV
	Over temperature range				10	
I_{BIAS}	Input bias current	V+ = +5.25V, V– = –5.25V				
	At 25°C			7.5	20	µA
	Over temperature range				40	
I_{OS}	Input offset current	V+ = +5.25V, V– = –5.25V				
	At 25°C			1.0	5	µA
	Over temperature range				12	
V_{CM}	Common-mode voltage range	V+ = +4.75V, V– = –4.75V	–3		+3	V
V_{IL}	Low level input					
	At 25°C				0.8	V
	Over temperature range				0.7	
V_{IH}	High level temperature		2.0			V
I_{IH}	Input current	V+ = +5.25V, V– = –5.25V				
	High	V_{IH} = 2.7V			50	µA
		1G or 2G strobe			100	µA
		Common strobe S				
I_{IL}	Low input current	V_{IL} = 0.5V				
		1G or 2G strobe			–2.0	mA
		Common strobe S			–4.0	mA
V_{OL}	Output voltage Low	V+ = +5.25V, V– = –5.25V, $V_{I(S)}$ = 2.0V, I_{LOAD} = 20mA			0.5	V
I_{OH}	Output current High	V+ = +4.75V, V– = –4.75V, V_{OH} = 5.25V			250	µA
	Supply voltage					
V+	Positive		4.75	5.0	5.25	V
V–	Negative		–4.75	–5.0	–5.25	
	Supply current	V+ = +5.25V, V– = –5.25V, T_A = 25°C				
I_{CC+}	Positive			27	35	mA
$I_{CC–}$	Negative			–15	–28	

AC ELECTRICAL CHARACTERISTICS

T_A = 25°C, R_L = 280Ω, C_L = 15pF, unless otherwise stated.

SYMBOL	PARAMETER	FROM INPUT	TO OUTPUT	LIMITS			UNITS
				MIN	TYP	MAX	
I_R	Input resistance				4		kΩ
I_C	Input capacitance				3		pF
Large-signal switching speed							
	Propagation delay						
$t_{PLH(D)}$	Low to high[1]	Amp	Output		10	15	
$t_{PHL(D)}$	High to low[1]	Amp	Output		8	12	ns
$t_{PLH(S)}$	Low to high[2]	Strobe	Output		6	13	
$t_{PHL(S)}$	High to low[2]	Strobe	Output		5	9	
I_{MAX}	Maximum operating frequency			25	35		MHz

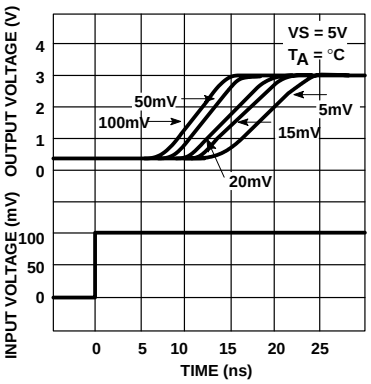
NOTES:
1. Response time measured from 0V point of +100mV_{P-P} 10MHz square wave to the 1.5V point of the output.
2. Response time measured from 1.5V point of the input to 1.5V point of the output.

LOGIC FUNCTION TABLE

V_{ID} (A^+, B^-)	STRS	STRG	OUTPUT TRANSISTOR
< $-V_{OS}$	H	H	ON
$-V_{OS}$ < V_{ID} < V_{OS}	H	H	Undefined
> V_{OS}	H	H	OFF
X	L	X	OFF
X	X	L	OFF

EQUIVALENT SCHEMATIC

Response Time for Various Input Overdrives



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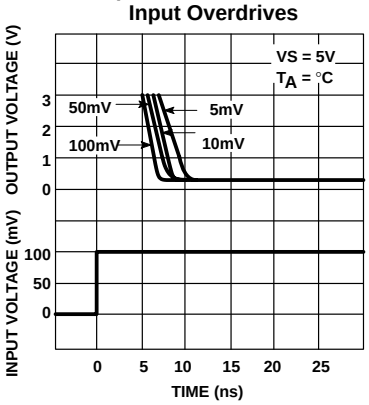
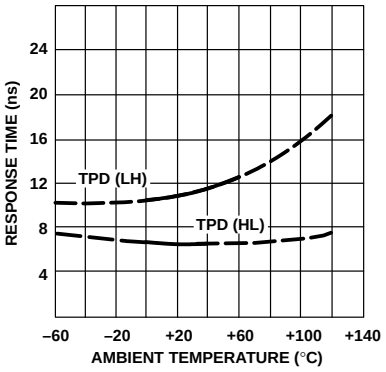
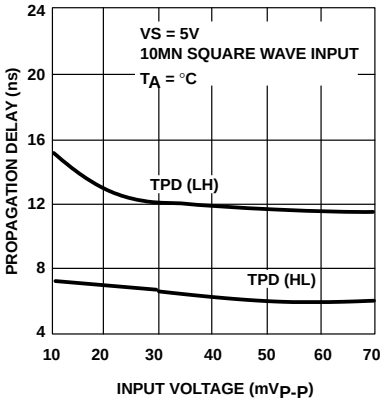


Response Time vs Temperature



Propagation Delay for Various Input Voltages



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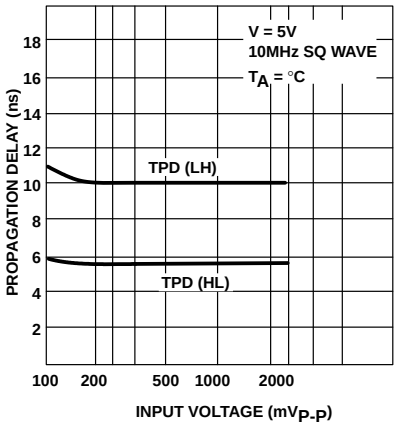
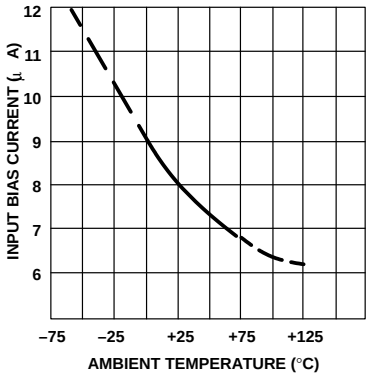


Input Bias Current vs Ambient Temperature



Input Offset Current vs Ambient Temperature